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John Burroughs,
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The tragedies of the nests.

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if it is cold weather; and this rule may be said to be more or less general with all animals and birds having disagreeable odors peculiar to their kind.

I have said the robes are almost worthless to the natives except for purposes of traffic. They are sometimes used to spread on the snow-bed, as the first layer of skins, in order to protect the snow from the heat of the body; but even here they are not nearly so serviceable as the robe of the reindeer, owing to the facility with which the snow can be removed from the latter by a few strokes of a stick. The Ookjoolik or Ooqueesik-Salik Eskimos, of Hayes River, who are not armed, and consequently can procure but few reindeer (whose hide is the universal arctic clothing), often make long boot-leggings and gloves of musk-ox fur; and this gives them a peculiarly wild and savage appearance that contrasts strangely with other natives. The almost total absence of wood in their country—the little they get being obtained by barter with distant and more fortunate tribes—forces them to use the skin of the musk-ox for sledging. The ears and fore-legs of the skin being lashed almost together, a sledge-like front is obtained, and the articles to be transported are loaded on the trailing body behind. Over lakes, rivers, and flat plains it is equal to wood, but in very uneven ground its pliability is dangerous to fragile loads.

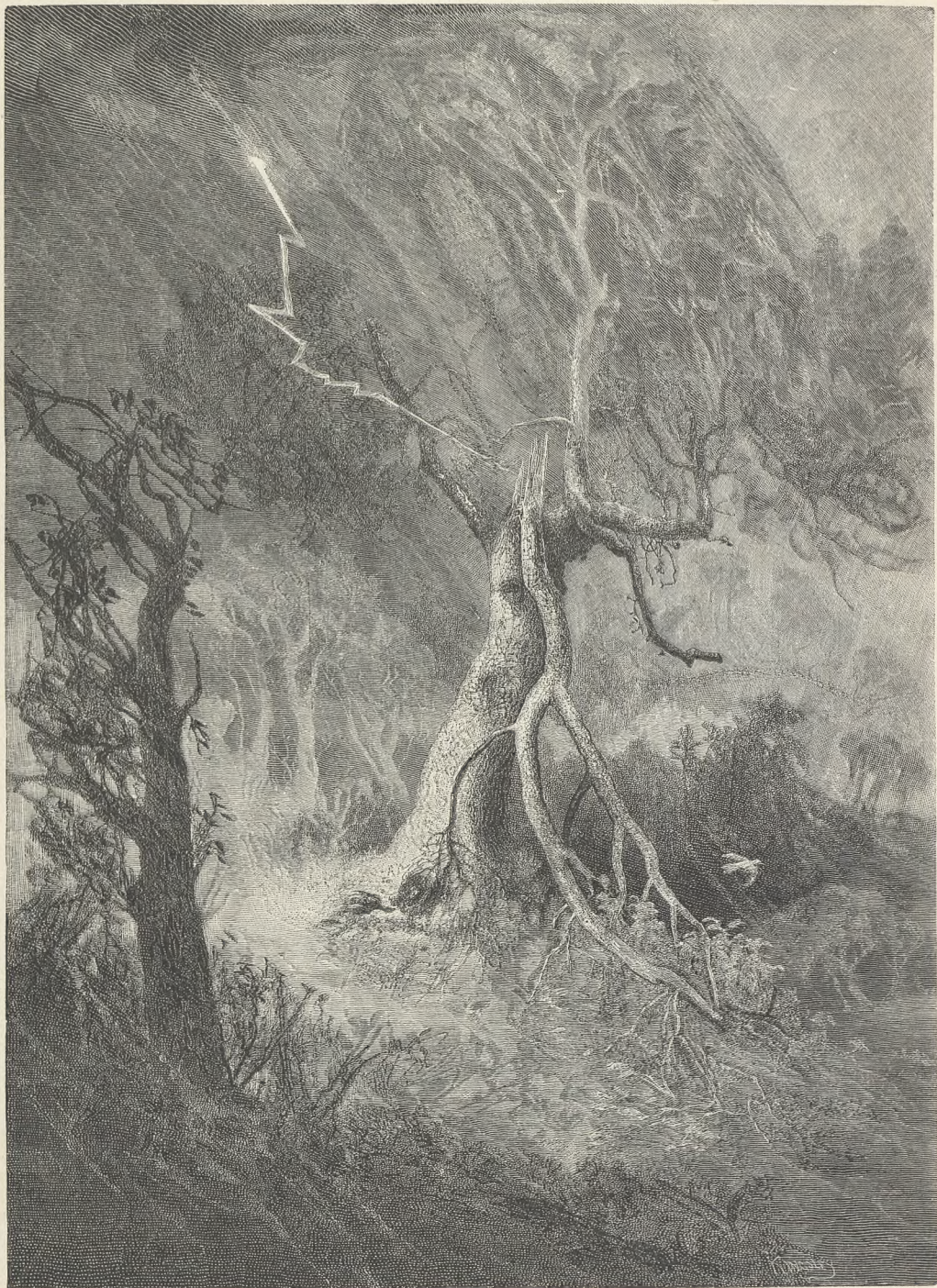
When closely pressed, the musk-oxen do not hesitate to throw themselves from the steepest and deepest precipices; and the natives speak of occasions where they have secured them in this manner without wasting powder or lead, finding them dead at the foot of the descent. Sir James Clarke Ross had a personal observation of this kind in one of his arctic expeditions.

McClintock once saw a cow on Melville Island, in the Parry archipelago, which was of a pure white color, an albino sort of deviation that is known to occur among the buffalo of the plains at rare intervals. She was, however, accompanied by a black calf. This Melville Island is abundantly peopled with these oxen, not less than one hundred and fourteen being shot within a year by the crews of two ships wintering there. When inhabiting islands, they do not seem to cross from one to another, as the reindeer constantly do when the channel is frozen over, and even confine their annual migrations to very limited areas. Different writers disagree as to whether they can be

called migratory in the strict sense of the word. If white men are hunting them without dogs, they may station themselves about a herd, close in to seventy or eighty yards, and then, by picking off the restless ones first, so bewilder the remainder that, with fair luck, they may secure them all. There are several instances of such methods being tolerably successful. When the temperature reaches the extremes of the bitter winter weather, as from -60° to -70° Fahrenheit, the musk-oxen and reindeer herds can be located, at from six to seven miles distance, by the cloud of moisture which hangs over them, formed by their condensing breath, and from favorable heights at even fifteen to twenty miles. Even at these extreme distances, the native hunters claim that they can discern the difference between musk-oxen and reindeer by some varying peculiarities of their vapors.

I remember being one of a party of six—five Innuits besides myself—that chased on the fresh trail of a small herd of musk-oxen from about nine o'clock in the morning until night-fall, which was four in the afternoon. We went at a gait which would be called a good round "dog-trot" for the whole time, except one small rest of five minutes. This is much easier than one would imagine, with a couple of dogs harnessed to you to tow you along; yet I confess I was completely fagged out after this little run of not less than forty or fifty miles, and in a fine condition to believe many stories of endurance while on hunting chases that I had heard them tell. The thermometer at camp registered 65° below zero, yet there was no suffering from the still cold during such exercise, and in fact, at times, I felt uncomfortably warm.

One of their peculiarities which I have noticed is that when slightly wounded, if they have been knocked over upon their sides, they seem perfectly powerless to rise, either from fear or the peculiar formation of their legs. Two of the animals we shot on the 29th of April received each a broken shoulder and were knocked on their sides. The native men, women, and boys sat upon their heaving sides, evidently enjoying the cruel sport; and all the white men participated for a mere second, rather to please their savage allies, until I requested them to dispatch the brutes, which they did by a well-directed heart thrust with a snow-knife. My natives spoke of this occurrence as a rather common incident of the musk-ox battle-field.



A TRAGEDY OF A NEST.
(ORIGINAL ENGRAVING BY ELBRIDGE KINGSLEY.)

THE TRAGEDIES OF THE NESTS.

THE life of the birds, especially of our migratory song-birds, is a series of adventures and of hair-breadth escapes by flood and field. Very few of them probably die a natural death or even live out half their appointed days. The home instinct is strong in birds as it is in most creatures; and I am convinced that every spring a large number of those which have survived the Southern campaign return to their old haunts to breed. A Connecticut farmer took me out under his porch one April day and showed me a phoebe bird's nest six stories high. The same bird had no doubt returned year after year; and, as there was room for only one nest upon her favorite shelf, she had each season reared a new superstructure upon the old as a foundation. I have heard of a white robin—an albino—that nested several years in succession in the suburbs of a Maryland city. A sparrow with a very marked peculiarity of song I have heard several seasons in my own locality. But the birds do not all live to return to their old haunts: the bobolinks and starlings run a gauntlet of fire from the Hudson to the Savannah, and the robins and meadow-larks and other song-birds are shot by boys and pot-hunters in great numbers,—to say nothing of their danger from hawks and owls. But, of those that do return, what perils beset their nests, even in the most favored localities! The cabins of the early settlers, when the country was swarming with hostile Indians, were not surrounded by such dangers. The tender households of the birds are not only exposed to hostile Indians in the shape of cats and collectors, but to numerous murderous and blood-thirsty animals, against whom they have no defense but concealment. They lead the darkest kind of pioneer life, even in our gardens and orchards and under the walls of our houses. Not a day or a night passes, from the time the eggs are laid till the young are flown, when the chances are not greatly in favor of the nest being rifled and its contents devoured,—by owls, skunks, minks, and coons at night, and by crows, jays, squirrels, weasels, snakes, and rats during the day. Infancy, we say, is hedged about by many perils; but the infancy of birds is cradled and pillowed in peril. An old Michigan settler told me that the first six children that were born to him died; malaria and teething invariably carried them off when they had reached a certain age; but other children were born, the country improved, and by and by

the babies weathered the critical period, and the next six lived and grew up. The birds, too, would no doubt persevere six times and twice six times, if the season were long enough, and finally rear their family, but the waning summer cuts them short, and but few species have the heart and strength to make even the third trial.

My neighborhood on the Hudson is perhaps exceptionally unfavorable as a breeding haunt for birds, owing to the abundance of fish-crows and of red squirrels; and the past season seems to have been a black-letter one, even for this place, for at least nine nests out of every ten that I observed during the spring and summer of 1881 failed of their proper issue. From the first nest I noted, which was that of a bluebird,—built (very imprudently I thought at the time) in a squirrel hole in a decayed apple-tree, about the last of April, and which came to naught, even the mother-bird, I suspect, perishing by a violent death,—to the last, which was that of a snow-bird, observed in August, deftly concealed in a mossy bank by the side of a road that skirted a wood, where the tall thimble blackberries grew in abundance, and from which the last young one was taken when it was about half grown by some nocturnal walker or daylight prowler,—some untoward fate seemed hovering about them. It was a season of calamities, of violent deaths, of pillage and massacre, among our feathered neighbors. For the first time, I noticed that the orioles were not safe in their strong pendent nests. Three broods were started in the apple-trees, only a few yards from the house, where, for several previous seasons, the birds had nested without molestation; but this time the young were all destroyed when about half grown. Their chirping and chattering, which was so noticeable one day, suddenly ceased the next. The nests were probably plundered at night, and doubtless by the little red screech-owl, which I know is a denizen of these old orchards, living in the deeper cavities of the trees. The owl could alight upon the top of the nest, and easily thrust his murderous claw down into its long pocket and seize the young and draw them forth. The tragedy of one of the nests was heightened, or at least made more palpable, by one of the half-fledged birds, either in its attempt to escape or while in the clutches of the enemy, being caught and entangled in one of the horse-hairs by

which the nest was stayed and held to the limb above. There it hung bruised and dead, gibbeted to its own cradle. This nest was the theater of another little tragedy later in the season. Some time in August a bluebird, indulging its propensity to peep and pry into holes and crevices, alighted upon it and probably inspected the interior; but by some unlucky move it got its wing entangled in this same fatal horse-hair. Its efforts to free itself appeared only to result in its being more securely and hopelessly bound; and there it perished; and there its form, dried and embalmed by the summer heats, was yet hanging in September, the outspread wings and plumage showing nearly as bright as in life.

Before the advent of civilization in this country, the oriole probably built a much deeper nest than it usually does at present. When now it builds in remote trees and along the borders of the woods, its nest, I have noticed, is long and gourd-shaped; but in orchards and near dwellings it is only a deep cup or pouch. It shortens it up in proportion as the danger lessens. Probably a succession of disastrous years, like the present one, would cause it to lengthen it again beyond the reach of owl's talons or jay-bird's beak.

The first song-sparrow's nest I observed the past season was in a field under a fragment of a board, the board being raised from the ground a couple of inches by two poles. It had its full complement of eggs, and probably sent forth a brood of young birds, though as to this I cannot speak positively, as I neglected to observe it further. It was well sheltered and concealed, and was not easily come at by any of its natural enemies, save snakes and weasels. But concealment often avails little. In May, a song-sparrow, that had evidently met with disaster earlier in the season, built its nest in a thick mass of woodbine against the side of my house, about fifteen feet from the ground. Perhaps it took the hint from its cousin, the English sparrow. The nest was admirably placed, protected from the storms by the overhanging eaves and from all eyes by the thick screen of leaves. Only by patiently watching the suspicious bird, as she lingered near with food in her beak, did I discover its whereabouts. That brood is safe, I thought, beyond doubt. But it was not: the nest was pillaged one night, either by an owl, or else by a rat that had climbed into the vine, seeking an entrance to the house. The mother-bird, after reflecting upon her ill luck about a week, seemed to resolve to try a different system of tactics and to throw all appearances of concealment aside. She built a nest a few yards from the house beside the drive, upon a

smooth piece of greensward. There was not a weed or a shrub or anything whatever to conceal it or mark its site. The structure was completed and incubation had begun before I discovered what was going on. "Well, well," I said, looking down upon the bird almost at my feet, "this is going to the other extreme indeed; now, the cats will have you." The desperate little bird sat there day after day, looking like a brown leaf pressed down in the short green grass. As the weather grew hot, her position became very trying. It was no longer a question of keeping the eggs warm, but of keeping them from roasting. The sun had no mercy on her, and she fairly panted in the middle of the day. In such an emergency, the male robin has been known to perch above the sitting female and shade her with his outstretched wings. But in this case there was no perch for the male bird, had he been disposed to make a sunshade of himself. I thought to lend a hand in this direction myself, and so stuck a leafy twig beside the nest. This was probably an unwise interference; it guided disaster to the spot; the nest was broken up, and the mother-bird probably was caught, as I never saw her afterward.

For several summers past a pair of kingbirds have reared, unmolested, a brood of young in an apple-tree, only a few yards from the house; but, during the present season, disaster overtook them also. The nest was completed, the eggs laid, and incubation had just begun, when, one morning about sunrise, I heard loud cries of distress and alarm proceed from the old apple-tree. Looking out of the window I saw a crow, which I knew to be a fish-crow, perched upon the edge of the nest hastily bolting the eggs. The parent birds, usually so ready for the attack, seemed overcome with grief and alarm. They fluttered about in the most helpless and bewildered manner, and it was not till the robber fled on my approach that they recovered themselves and charged upon him. The crow scurried away with upturned, threatening head, the furious kingbirds fairly upon his back. The pair lingered around their desecrated nest for several days, almost silent, and saddened by their loss, and then disappeared. They probably made another trial elsewhere.

The fish-crow fishes only when it has destroyed all the eggs and young birds it can find. It is the most despicable thief and robber among our feathered creatures. From May to August, it is gorged with the fledglings of the nest. It is fortunate that its range is so limited. In size it is smaller than the common crow, and is a much less noble and dignified bird. Its caw is weak and feminine

—a sort of split and abortive caw, and stamps it the sneak-thief it is. This crow is common farther south, but is not found in this State, so far as I have observed, except in the valley of the Hudson.

The past season a pair of them built a nest in a Norway spruce that stood amid a dense growth of other ornamental trees near a large unoccupied country house. They sat down amid plenty. The wolf established himself in the fold. The many birds—robins, thrushes, finches, vireos, pewees—that seek the vicinity of dwellings (especially of these large country residences with their many trees and park-like grounds), for the greater safety of their eggs and young, were the easy and convenient victims of these robbers. They plundered right and left, and were not disturbed till their young were nearly fledged, when some boys, who had long before marked them as their prize, rifled the nest.

The song-birds nearly all build low; their cradle is not upon the tree-top. It is only birds of prey that fear danger from below more than from above and that seek the higher branches for their nests. A line five feet from the ground would run above more than half the nests, and one ten feet would bound more than three-fourths of them. It is only the oriole and the wood pewee that, as a rule, go higher than this. The crows and jays and other enemies of the birds have learned to explore this belt pretty thoroughly. But the leaves and the protective coloring of most nests baffle them as effectually, no doubt, as they do the professional oölogist. The nest of the red-eyed vireo is one of the most artfully placed in the wood. It is just beyond the point where the eye naturally pauses in its search, namely, on the extreme end of the lowest branch of the tree, usually four or five feet from the ground. One looks up and down and through the tree,—shoots his eye-beams into it as he might discharge his gun at some game hidden there, but the drooping tip of that low horizontal branch—who would think of pointing his piece just there? If a crow or other marauder were to alight upon the branch or upon those above it, the nest would be screened from him by the large leaf that usually forms a canopy immediately above it. The nest-hunter, standing at the foot of the tree and looking straight before him, might discover it easily, were it not for its soft, neutral gray tint which blends so thoroughly with the trunks and branches of trees. Indeed, I think there is no nest in the woods—no arboreal nest—so well concealed. The last one I saw was pendant from the end of a low branch of a maple, that nearly grazed the clapboards of an unused

hay-barn in a remote backwoods clearing. I peeped through a crack and saw the old birds feed the nearly fledged young within a few inches of my face. And yet the cow-bird finds this nest and drops her parasitical egg in it. Her tactics in this as in other cases are probably to watch the movements of the parent bird. She may often be seen searching anxiously through the trees or bushes for a suitable nest, yet she may still oftener be seen perched upon some good point of observation watching the birds as they come and go about her. There is no doubt that, in many cases, the cow-bird makes room for her own illegitimate egg in the nest by removing one of the bird's own. A lady, living in the suburbs of an eastern city, one morning heard cries of distress from a pair of house-wrens that had a nest in a honeysuckle on her front porch. On looking out of the window, she beheld this little comedy—comedy from her point of view, but no doubt grim tragedy from the point of view of the wrens: a cow-bird with a wren's egg in its beak running rapidly along the walk, with the outraged wrens forming a procession behind it, screaming, scolding, and gesticulating as only these voluble little birds can. The cow-bird had probably been surprised in the act of violating the nest, and the wrens were giving her a piece of their minds.

Every cow-bird is reared at the expense of two or more song-birds. For every one of these dusky little pedestrians there amid the grazing cattle there are two or more sparrows, or vireos, or warblers, the less. It is a big price to pay—two larks for a bunting—two sovereigns for a shilling; but nature does not hesitate occasionally to contradict herself in just this way.

I noted but two warblers' nests the past season, one of the black-throated blue-back and one of the redstart,—the latter built in an apple-tree but a few yards from a little rustic summer-house where I idle away many summer days. The lively little birds, darting and flashing about, attracted my attention for a week before I discovered their nest. They probably built it by working early in the morning, before I appeared upon the scene, as I never saw them with material in their beaks. Guessing from their movements that the nest was in a large maple that stood near by, I climbed the tree and explored it thoroughly, looking especially in the forks of the branches, as the authorities say these birds build in a fork. But no nest could I find. Indeed, how can one by searching find a bird's nest? I overshot the mark; the nest was much nearer me, almost under my very nose, and I discovered it, not by searching,

but by a casual glance of the eye, while thinking of other matters. The bird was just settling upon it as I looked up from my book and caught her in the act. The nest was built near the end of a long, knotty, horizontal branch of an apple-tree, but effectually hidden by the grouping of the leaves; it had three eggs, one of which proved to be barren. The two young birds grew apace, and were out of the nest early in the second week; but something caught one of them the first night. The other probably grew to maturity, as it disappeared from the vicinity with its parents after some days.

The blue-back's nest was scarcely a foot from the ground, in a little bush situated in a low, dense wood of hemlock and beech and maple,—a deep, massive, elaborate structure, in which the sitting bird sank till her beak and tail alone were visible above the brim. It was a misty, chilly day when I chanced to find the nest, and the mother-bird knew instinctively that it was not prudent to leave her four half incubated eggs uncovered and exposed for a moment. When I sat down near the nest she grew very uneasy, and after trying in vain to decoy me away by suddenly dropping from the branches and dragging herself over the ground as if mortally wounded, she approached and timidly and half doubtfully covered her eggs within two yards of where I sat. I disturbed her several times, to note her ways. There came to be something almost appealing in her looks and manner, and she would keep her place on her precious eggs till my outstretched hand was within a few feet of her. Finally, I covered the cavity of the nest with a dry leaf. This she did not remove with her beak, but thrust her head deftly beneath it and shook it off upon the ground. Many of her sympathizing neighbors, attracted by her alarm-note, came and had a peep at the intruder and then flew away, but the male bird did not appear upon the scene. The final history of this nest I am unable to give, as I did not again visit it till late in the season, when, of course, it was empty.

Years pass without my finding a brown-thrasher's nest; it is not a nest you are likely to stumble upon in your walk; it is hidden as a miser hides his gold and watched as jealously. The male pours out his rich and triumphant song from the tallest tree he can find, and fairly challenges you to come and look for his treasures in his vicinity. But you will not find them if you go. The nest is somewhere on the outer circle of his song; he is never so imprudent as to take up his stand very near it. The one I found the past season was thirty or forty rods from the point where the male was wont to indulge in his

brilliant recitative. It was in an open field under a low ground-juniper. My dog disturbed the sitting bird as I was passing near. The nest could be seen only by lifting up and parting away the branches. All the arts of concealment had been carefully studied. It was the last place you would think of looking, and, if you did look, nothing was visible but the dense green circle of the low-spreading juniper. When you approached, the bird would keep her place till you had begun to stir the branches, when she would start out, and, just skimming the ground, make a bright brown line to the near fence and bushes. I confidently expected that this nest would escape molestation, but it did not. Its discovery by myself and dog probably opened the door of ill luck, for one day, not long afterward, when I peeped in upon it, it was empty. The proud song of the male had ceased from his accustomed tree, and the pair were seen no more in that vicinity.

The phœbe bird is a wise architect, and perhaps enjoys as great an immunity from danger, both in its person and its nest, as any other bird. Its modest ashen-gray suit is the color of the rocks where it builds, and the moss of which it makes such free use gives to its nest the look of a natural growth or accretion. But when it comes into the barn or under the shed to build, as it so frequently does, the moss is rather out of place. Doubtless in time the bird will take the hint, and, when she builds in such places, will leave the moss out. I noted but two nests the past season: one in a barn failed of issue, on account of the rats, I suspect, though the little owl may have been the depredator; the other, in the woods, sent forth three young. This latter nest was most charmingly and ingeniously placed. I discovered it while in quest of pond-lilies in a long, deep, level stretch of water in the woods. A large tree had blown over at the edge of the water, and its dense mass of upturned roots, with the black, peaty soil filling the interstices, was like the fragment of a wall several feet high, rising from the edge of the languid current. In a niche in this earthy wall, and visible and accessible only from the water, a phoebe had built her nest and reared her brood. I paddled my boat up and came alongside ready to take the family aboard. The young, nearly ready to fly, were quite undisturbed by my presence, having probably been assured that no danger need be apprehended from that side. It was not a likely place for minks, or they would not have been so secure.

I noted but one nest of the wood pewee, and that, too, like so many other nests, failed of issue. It was saddled upon a small dry

limb of a plane-tree that stood by the roadside, about forty feet from the ground. Every day for nearly a week as I passed by I saw the sitting bird upon the nest. Then one morning she was not in her place, and on examination the nest proved to be empty—robbed, I had no doubt, by the red squirrels, as they were very abundant in its vicinity and appeared to make a clean sweep of every nest. The wood pewee builds an exquisite nest, shaped and finished as if cast in a mold. It is modeled without and within with equal neatness and art, like the nest of the humming-bird and the little gray gnat-catcher. The material is much more refractory than that used by either of these birds, being, in the present case, dry, fine cedar twigs; but these were bound into a shape as rounded and compact as could be molded out of the most plastic material. Indeed, the nest of this bird looks precisely like a large, lichen-covered, cup-shaped excrescence of the limb upon which it is placed. And the bird, while sitting, seems entirely at her ease. Most birds seem to make very hard work of incubation. It is a kind of martyrdom which appears to tax all their powers of endurance. They have such a fixed, rigid, predetermined look, pressed down into the nest and as motionless as if made of cast-iron. But the wood pewee is an exception. It is largely visible above the rim of the nest. Its attitude is easy and graceful; it moves its head this way and that, and seems to take note of whatever goes on about it; and if its neighbor were to drop in for a little social chat, it could doubtless do its part. In fact, it makes light and easy work of what, to most other birds, is such a serious and engrossing matter. If it does not look like play with her, it at least looks like leisure and quiet contemplation.

There is no nest-builder that suffers more from crows and squirrels and other enemies than the wood-thrush. It builds as openly and unsuspectingly as if it thought all the world as honest as itself. Its favorite place is the fork of a sapling, eight or ten feet from the ground, where it falls an easy prey to every nest-robber that comes prowling through the woods and groves. It is not a bird that skulks and hides like the cat-bird, the brown-thrasher, the chat, or the cheewink, and its nest is not concealed with the same art as theirs. Our thrushes are all frank, open-mannered birds; but the veery and the hermit build upon the ground, where they at least escape the crows, owls, and jays, and stand a better chance to be overlooked by the red squirrel and weasel also; while the robin seeks the protection of dwellings and

out-buildings. For years I have not known the nest of a wood-thrush to succeed. The past season I observed but two, both apparently a second attempt, as the season was well advanced, and both failures. In one case, the nest was placed in a branch that an apple-tree, standing near a dwelling, held out over the highway. The structure was barely ten feet above the middle of the road, and would just escape a passing load of hay. It was made conspicuous by the use of a large fragment of newspaper in its foundation—an unsafe material to build upon in most cases. Whatever else the press may guard, this particular newspaper did not guard this nest from harm. It saw the egg and probably the chick, but not the fledgeling. A murderous deed was committed above the public highway, but whether in the open day or under cover of darkness I have no means of knowing. The frisky red squirrel was doubtless the culprit. The other nest was in a maple sapling, within a few yards of the little rustic summer-house already referred to. The first attempt of the season, I suspect, had failed in a more secluded place under the hill; so the pair had come up nearer the house for protection. The male sang in the trees near by for several days before I chanced to see the nest. The very morning I think it was finished, I saw a red squirrel exploring a tree but a few yards away; he probably knew what the singing meant as well as I did. I did not see the inside of the nest, for it was almost instantly deserted, the female having probably laid a single egg, which the squirrel had devoured.

If I were a bird, in building my nest I should follow the example of the bobolink, placing it in the midst of a broad meadow, where there was no grass, or flower, or growth unlike another to mark its site. I judge that the bobolink escapes the dangers to which I have adverted as few or no other birds do. Unless the mowers come along at an earlier date than she has anticipated, that is, before July 1st, or a skunk goes nosing through the grass, which is unusual, she is as safe as bird well can be in the great open of nature. She selects the most monotonous and uniform place she can find amid the daisies or the timothy and clover, and places her simple structure upon the ground in the midst of it. There is no concealment, except as the great conceals the little, as the desert conceals the pebble, as the myriad conceals the unit. You may find the nest once, if your course chances to lead you across it and your eye is quick enough to note the silent brown bird as she darts swiftly away; but step three paces in the wrong direction, and your search will

probably be fruitless. My friend and I found a nest by accident one day, and then lost it again one minute afterward. I moved away a few yards to be sure of the mother-bird, charging my friend not to stir from his tracks. When I returned, he had moved two paces, he said (he had really moved four), and we spent a half hour stooping over the daisies and the buttercups, looking for the lost clew. We grew desperate, and fairly felt the ground over with our hands, but without avail. I marked the spot with a bush, and came the next day, and, with the bush as a center, moved about it in slowly increasing circles, covering, I thought, nearly every inch of ground with my feet and laying hold of it with all the visual power I could command, till my patience was exhausted and I gave up, baffled. I began to doubt the ability of the parent birds themselves to find it, and so secreted myself and watched. After much delay, the male bird appeared with food in his beak, and satisfying himself that the coast was clear, dropped into the grass which I had trodden down in my search. Fastening my eye upon a particular meadow-lily, I walked straight to the spot, bent down and gazed long and intently into the grass. Finally my eye separated the nest and its young from its surroundings. My foot had barely missed them in my search, but by how much they had escaped my eye I could not tell. Probably not by distance at all, but simply by unrecognition. They were virtually invisible. The dark gray and yellowish brown dry grass and stubble of the meadow-bottom were exactly copied in the color of the half-fledged young. More than that, they hugged the nest so closely and formed such a compact mass, that though there were five of them, they preserved the unit of expression,—no single head or form was defined; they were one, and that one was without shape or color, and not separable, except by closest scrutiny, from the one of the meadow-bottom. That nest prospered, as bobolinks' nests doubtless generally do; for, notwithstanding the enormous slaughter of the birds during their fall migrations by southern sportsmen, the bobolink appears to hold its own, and its music does not diminish in our northern meadows.

Birds with whom the struggle for life is the sharpest seem to be more prolific than those whose nest and young are exposed to fewer dangers. The robin, the sparrows, the pewees, etc., will rear, or make the attempt to rear, two and sometimes three broods in a season; but the bobolink, the oriole, the kingbird, the goldfinch, the cedar-bird, the birds of prey, and the woodpeckers, that build in safe retreats in the trunks of trees, have usually but

a single brood. If the bobolink reared two broods, our meadows would swarm with them.

I noted three nests of the cedar-bird the past August in a single orchard, all productive, but all with one or more unfruitful eggs in them. The cedar-bird is the most silent of our birds, having but a single fine note, so far as I have observed, but its manners are very expressive at times. No bird known to me is capable of expressing so much silent alarm while on the nest as this bird. As you ascend the tree and draw near it, it depresses its plumage and crest, stretches up its neck, and becomes the very picture of fear. Other birds, under like circumstances, hardly change their expression at all till they launch into the air, when by their voice they express anger rather than alarm.

I have referred to the red squirrel as a destroyer of the eggs and young of birds. I think the mischief it does in this respect can hardly be overestimated. Nearly all birds look upon it as their enemy and attack and annoy it when it appears near their breeding haunts. Thus, I have seen the pewee, the cuckoo, the robin, and the wood-thrush pursuing it with angry voice and gestures. If you wish the birds to breed and thrive in your orchard and groves, kill every red squirrel that infests the place; kill every weasel also. The weasel is a subtle and arch enemy of the birds. It climbs trees and explores them with great ease and nimbleness. I have seen it do so on several occasions. One day during the past summer my attention was arrested by the angry notes of a pair of brown-thrashers that were flitting from bush to bush along an old stone row in a remote field. Presently I saw what it was that excited them—three large, red weasels or ermines coming along the stone wall and leisurely and half playfully exploring every tree that stood near it. They had probably robbed the thrashers. They would go up the trees with great ease and glide serpent-like out upon the main branches. When they descended the tree they were unable to come straight down, like a squirrel, but went around it spirally. How boldly they thrust their heads out of the wall and eyed me and sniffed me, as I drew near,—their round, thin ears, their prominent, glistening, bead-like eyes, and the curving, snake-like motions of the head and neck being very noticeable. They looked like blood-suckers and egg-suckers. They suggested something extremely remorseless and cruel. One could understand the alarm of the rats when they discover one of these fearless, subtle, and circumventing creatures threading their holes. To flee must

be like trying to escape death itself. I was one day standing in the woods upon a flat stone, in what at certain seasons was the bed of a stream, when one of these weasels came undulating along and ran under the stone upon which I was standing. As I remained motionless, he thrust out his wedge-shaped head and turned it back above the stone as if half in mind to seize my foot; then he drew back, and presently went his way. These weasels often hunt in packs like the British stoat. When I was a boy, my father one day

armed me with an old musket and sent me to shoot chipmunks around the corn. While watching the squirrels, a troop of weasels tried to cross a bar-way where I sat, and were so bent on doing it that I fired at them, boy-like, simply to thwart their purpose. One of the weasels was disabled by my shot, but the troop was not discouraged, and, after making several feints to cross, one of them seized the wounded one and bore it over, and the pack disappeared in the wall on the other side.

WILL NEW YORK BE THE FINAL WORLD METROPOLIS?

As a mathematical and mechanical prodigy, the great Roebling Bridge, connecting Brooklyn with New York, is eclipsed by its philosophic aspect, as a vital artery, and a bond of more strength than cables and trussed beams of steel. It is a nerve of conscious identity between the two sides of the double city, not only as the eye follows the ceaseless thrill of movement and the imagination is grasped by the expressive continuity, but especially as the crossing populations grow habituated to the indivisible expanse of city beneath and around on every side, within which the glimpses of a boundary river show like partial seams in an almost seamless whole. With this imposing specimen of the spontaneous evolution and integration of a great metropolis before every eye, it may be hoped that a somewhat novel treatment of the great New York question, on general and vital principles, may meet with thoughtful appreciation. The statistical evidences might have been revised to a later date; but the totals, and the illustrative effect for which they are used, would still have been, to all intents and purposes, the same.

The metropolis is the chief organ through which both expression and effect are given to the genius and character of a nation. It is the brain, from which the nerves of public intelligence and impulse spread to every extremity, and to which the minor centers and ganglia are unconsciously subsidiary. It is the heart, whose pulsations gather and redistribute the vital currency from and to the remotest veinlets. It is the alimentary center where the national wealth is digested, mobilized, and infused into the circulation to nourish every fiber of the system. There can no more be two such vital systems and centers in a nation than in an individual. No such *usus nature* was ever long preserved. As

in the individual, so in the whole, the singleness of such organs is the unity of the being, and their size and vigor are the measure of its vitality and power.

History is little more than the history of capital cities. "Paris is France." Blot out from English annals all that was originated or consummated in London, and what have you left? Rome was the ultimate focus of vital force in the ancient world. No people ever successfully organized and maintained itself with a plurality of capitals. A second capital rent the Roman empire in twain. Babylon culminated on the ruins of Nineveh.

In our own young country, the organism is not yet perfectly defined. More than one quasi metropolis aspires to be the vital center. Arguments have been constructed from plausible data in favor of each of these expectant capitals. Dubious opinion in most minds, perhaps, halting between such arguments, has questioned whether any one city were destined to metropolitan supremacy in America. But, despite the force of rival pretensions, our glimpse of national physiology instructs us that there must be one and only one center of the continental nationality tested and consolidated by the war for the Union. Assuming, as a first principle in political philosophy, that national being is organic and analogous to the individual organism,—inevitably developing, if not developed from, one central sensorium,—it follows that every local movement from partial causes, however powerful, must merge at length in a common vortex of national force and motion, a metropolis commensurate with the future of the American republic. The greater the complexity of genius and the exuberance of vitality exhibited in so many Titanic rivals, all so unlike, the more majestic, simply, the center to which they must all prove tributary at last. The sys-

tem must have a sun outweighing the sum of its parts, and necessarily can have but one.

The physiological and cosmical analogies will not be equally satisfactory to all minds. A more mechanical argument, however, leads to the same result. As a permanent equilibrium between any two or more rival centers is morally impossible, it follows that some one of them must sooner or later gain an advantage in mass and momentum that will tend thereafter on every occasion to augment itself. For an illustration of the tendency, take the centralization at New York of the vast commercial developments of the third quarter of our century, such as the gold and silver product of the Pacific States, the railway and telegraph systems of the continent, or the multiplying lines of transatlantic steam-ships. A number of powerful causes have coöperated in each of these centralizations, but a single sufficient cause may be found in the determining attraction of the superior mass and magnitude of affairs at this point. The presence of a superior bulk of business and capital at a certain point insures better equipment and larger opportunity there for important transactions, and thus of itself furnishes a controlling motive to draw such transactions together. Every new addition attracted to the controlling mass goes to make the motive and the certainty still stronger for the next, and so on, until the tendency becomes a necessity, fixed beyond all power on earth to change. It is true that, during the earlier development of the country, new conditions are liable to arise of sufficient power to reverse the relative rank of its leading cities. One pound may overbalance two, if it can acquire a double leverage. The Erie Canal gave such a leverage to the city of New York against the once preponderant city of Philadelphia; and so the minor mass overcame the greater and became the greater. It is conceivable that the like might happen again, in a country so young and vast as ours, and with such inscrutable possibilities yet in reserve. But it is certain that such oscillations must come to an end at length. There must be some point really strongest on the whole, and that point cannot fail to discover itself sooner or later. Thenceforward, the tendency of things to converge to that point increases by geometrical ratio, until the overpowering solarly of the accumulation precludes even the initiation of any counterbalancing movement.

While the rival provincial centers are testing their possibilities, and thus determining the true national center, the country itself is involved in an analogous process, on the scale of ages and the world, slowly developing a super-organization of the commonwealth of

man. Organic centralization or headship is the necessary consummation of every grade of life, by which it reaches and passes to the plane above it—from individual being to that of family; to that of society and party; to that of nationality; to that, yet unperfected, of the world. The past inchoate stages of world-organization, provisional, partly abortive, but every time progressive, stand out boldly in the historical retrospect, mainly three: Babylon, Rome, London. While national centers, once fixed, however crudely, by the natural maturing of national organization, have never been (naturally) displaced as such, the immaturity of the world itself, as well as the direction and destination of its grand advance, is indicated by the successive westward removals of its imperial head-quarters. There remains but one possible further stage and stopping-place to be made. A glance at the course of metropolitan development in the past will throw light upon its future method, direction, and final goal.

Capitals were primarily of military origin, from which a political development naturally proceeded. This primitive politico-military motive was directly opposite in its requirements to the later commercial motive of metropolitan growths. It shunned the then barren sea, from which the dangers of piracy and invasion came earlier than the blessings of commerce. Consequently, civilization at first centered and fortified itself on the richest inland plains or in natural strongholds.

The rise of commerce at length brought a new influence to bear on the location of capitals, modifying but not overcoming the effect of the politico-military motive. They cautiously approached the sea, seeking an outlet by navigable rivers, but keeping at a defensible distance from their mouths. Examples: Rome on the Tiber; London on the Thames; Paris on the Seine; Vienna on the Danube; St. Petersburg on the Neva; etc. Tyre and Venice, purely commercial capitals, inaugurated, or rather foreshadowed, the commercial era, and temporarily anticipated the possibility, which was long in becoming realized, of great sea-coast cities. Not until the modern epoch of international security under international law could commerce build her peaceful capitals, for the congress of nations, on the ocean harbors of Liverpool and Havre, Boston and New York.

This radical change brings into the modern metropolitan re-organization of mankind new powers and resources immensely transcending the old. And it is a very potent conjunction, in our own horoscope, that the pure product of these novel powers (hardly even yet permitted free course in Europe) is to be first

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